Installing a V.34 Console Modem Module in a BayStack ARN Router

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Bay Networks

Bay Networks

4401 Great America Parkway
Santa Clara, CA 95054

8 Federal Street
Billerica, MA 01821

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European Requirements Only

EN 55 022 Statement

This is to certify that the Bay Networks BayStack ARN is shielded against the generation of radio interference in accordance with the application of Council Directive 89/336/EEC, Article 4a. Conformity is declared by the application of EN 55 022 Class A (CISPR 22).

Warning: This is a Class A product. In a domestic environment, this product may cause radio interference, in which case, the user may be required to take appropriate measures.

EC Declaration of Conformity

This product conforms (or these products conform) to the provisions of Council Directive 89/336/EEC and 73/23/EEC. The Declaration of Conformity is available on the Bay Networks World Wide Web site at www.baynetworks.com.

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Canada Requirements Only

Canadian Department of Communications Radio Interference Regulations

This digital apparatus (BayStack ARN) does not exceed the Class A limits for radio-noise emissions from digital apparatus as set out in the Radio Interference Regulations of the Canadian Department of Communications.

Règlement sur le brouillage radioélectrique du ministère des Communications

Cet appareil numérique (BayStack ARN) respecte les limites de bruits radioélectriques visant les appareils numériques de classe A prescrites dans le Règlement sur le brouillage radioélectrique du ministère des Communications du Canada.

Canada CS-03 Rules and Regulations

Notice: The Industry Canada label identifies certified equipment. This certification means that the equipment meets telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent the degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Caution: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

Notice: For equipment using loopstart lines, please note that the Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement

that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5. The REN is located on the “FCC Rules Part 68” label located on the bracket of the module, or on the back of the unit.

Canada CS-03 -- Règles et règlements

Avis: L'étiquette d'Industrie Canada identifie le matériel homologué. Cette étiquette certifie que le matériel est conforme aux normes de protection, d'exploitation et de sécurité des réseaux de télécommunications, comme le prescrivent les documents concernant les exigences techniques relatives au matériel terminal. Le Ministère n'assure toutefois pas que le matériel fonctionnera à la satisfaction de l'utilisateur.

Avant d'installer ce matériel, l'utilisateur doit s'assurer qu'il est permis de le raccorder aux installations de l'entreprise locale de télécommunication. Le matériel doit également être installé en suivant une méthode acceptée de raccordement. L'abonné ne doit pas oublier qu'il est possible que la conformité aux conditions énoncées ci-dessus n'empêche pas la dégradation du service dans certaines situations.

Les réparations de matériel homologué doivent être coordonnées par un représentant désigné par le fournisseur. L'entreprise de télécommunications peut demander à l'utilisateur de débrancher un appareil à la suite de réparations ou de modifications effectuées par l'utilisateur ou à cause de mauvais fonctionnement.

Pour sa propre protection, l'utilisateur doit s'assurer que tous les fils de mise à la terre de la source d'énergie électrique, des lignes téléphoniques et des canalisations d'eau métalliques, s'il y en a, sont raccordés ensemble. Cette précaution est particulièrement importante dans les régions rurales.

Avertissement: L'utilisateur ne doit pas tenter de faire ces raccordements lui-même; il doit avoir recours à un service d'inspection des installations électriques, ou à un électricien, selon le cas.

Avis: Veuillez prendre note que pour tout appareillage supportant des lignes de type “loopstart,” l'indice d'équivalence de la sonnerie (IES) assigné à chaque dispositif terminal indique le nombre maximal de terminaux qui peuvent être raccordés à une interface. La terminaison d'une interface téléphonique peut consister en une combinaison de quelques dispositifs, à la seule condition que la somme d'indices d'équivalence de la sonnerie de tous les dispositifs n'excède pas 5. Le REN figure sur l’étiquette “FCC Rules Part 68” située sur le support du module ou à l’arrière de l’unité.

FCC Part 68 Compliance Statement

This equipment complies with Part 68 of FCC Rules. All direct connections to telephone network lines must be made using standard plugs and jacks compliant with FCC Part 68. Please note the following:

1. You are required to request service from the telephone company before you connect the unit to a network. When you request service, you must provide the telephone company with the following data:
   - When you request T1 Service, you must provide the telephone company with
     -- The Facility Interface Code

        Provide the telephone company with all the codes below:

        - 04DU9-BN (1.544 MB, D4 framing format)
        - 04DU9-DN (1.544 MB, D4 framing format with B8ZF coding)
        - 04DU9-1KN (1.544 MB, ESF framing format)
        - 04DU9-1SN (1.544 MB, ESF framing format with B8ZF coding)
        - 04DU9-1ZN (1.544 MB, ANSI ESF and ZBTSI without line power)

        The telephone company will select the code it has available.

     -- The Service Order Code(s) (SOC): 6.0F

     -- The required Universal Service Order Code (USOC) jack: RJ48C
   - When you request 56K/64K Service, you must provide the telephone company with
     -- The Facility Interface Code: 04DU5-56/64

     -- The Service Order Code(s) (SOC): 6.0F

     -- The required Universal Service Order Code (USOC) jack: RJ48S

- When you request V.34 Service, you must provide the telephone company with
  - -- The required Universal Service Order Code (USOC) jack: RJ11C
  - -- The make, model number, Ringer Equivalence Number (REN), and FCC Registration number of the unit

  The REN helps you determine the number of devices you can connect to your telephone line and still have all of those devices ring when your number is called. In most, but not all, areas, the sum of the RENs of all devices should not exceed 5.0. To be certain of the number of devices you can connect to your line, you should call your local telephone company to determine the maximum REN for your calling area.

  This equipment must not be used on party lines or coin lines.
- When you request ISDN "U" Interface Service, you must provide the telephone company with
  - -- The Facility Interface Code: 02IS5
  - -- The Service Order Code(s) (SOC): 6.0F
  - -- The required Universal Service Order Code (USOC) jack: RJ49C
- When you request ISDN "S/T" Interface Service, you must provide the telephone company with
  - -- The Service Order Code(s) (SOC): 6.0N
  - -- The make, model number, and FCC Registration number of the NT1

  Note: ISDN S/T cannot be directly connected to the network.
- When you request Primary Rate ISDN Service, you must provide the telephone company with
  - -- The Facility Interface Code: 04DU9-1SN (1.544 MB, ESF framing format with B8ZF coding)
  - -- The Service Order Code(s) (SOC): 6.0F
  - -- The required Universal Service Order Code (USOC) jack: RJ48C

2. Your telephone company may make changes to its facilities, equipment, operations, or procedures that could affect the proper functioning of your equipment. The telephone company will notify you in advance of such changes to give you an opportunity to maintain uninterrupted telephone service.
3. If the unit causes harm to the telephone network, the telephone company may temporarily discontinue your service. If possible, they will notify you in advance, but if advance notice is not practical, you will be notified as soon as possible and will be informed of your right to file a complaint with the FCC.
4. If you experience trouble with the unit, please contact the Bay Networks Technical Solutions Center in your area for service or repairs. Repairs should be performed only by service personnel authorized by Bay Networks, Inc.

United States	1-800-2LAN-WAN
Valbonne, France	33-4-92-96-69-68
Sydney, Australia	61-2-9927-8800
Tokyo, Japan	81-3-5402-0180

5. You are required to notify the telephone company when you disconnect the unit from the network.

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About This Guide

Before You Begin

Make sure that you are running the latest version of Bay Networks® Site Manager and router software. The Advanced Remote Node (ARN™) router requires BayRS™ Version 11.00 Rev. 4n or later.

Conventions

italic text	Indicates variable values in command syntax descriptions, new terms, file and directory names, and book titles.
quotation marks (“ ”)	Indicate the title of a chapter or section within a book.

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United States and Canada	800-2LANWAN; then enter Express Routing Code (ERC) 290, when prompted, to purchase or renew a service contract 978-916-8880 (direct)	978-916-3514
Europe	33-4-92-96-69-66	33-4-92-96-69-96
Asia/Pacific	61-2-9927-8888	61-2-9927-8899
Latin America	561-988-7661	561-988-7550

Information about customer service is also available on the World Wide Web at *support.baynetworks.com*.

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Technical Solutions Center	Telephone number	Fax number
Billerica, MA	800-2LANWAN	978-916-3514
Santa Clara, CA	800-2LANWAN	408-495-1188
Valbonne, France	33-4-92-96-69-68	33-4-92-96-69-98
Sydney, Australia	61-2-9927-8800	61-2-9927-8811
Tokyo, Japan	81-3-5402-0180	81-3-5402-0173

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Region	Telephone number
United States and Canada	800-2LANWAN; then enter Express Routing Code (ERC) 282 when prompted 978-916-3460 (direct)
Europe, Middle East, and Africa	33-4-92-96-15-83
Asia/Pacific	61-2-9927-8822
Tokyo and Japan	81-3-5402-7041

Installing the V.34 Console Modem

This document describes how to install a V.34 Console Modem module in a BayStack ARN router.

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Before installing the module, examine the contents of your V.34 Console Modem module upgrade kit. If any parts appear damaged, call the Bay Networks Technical Solutions Center immediately.

Opening the ARN

To open the ARN enclosure and expose the base module:

1. **Turn off power to the ARN and disconnect the redundant power supply, if present (Figure 1).**

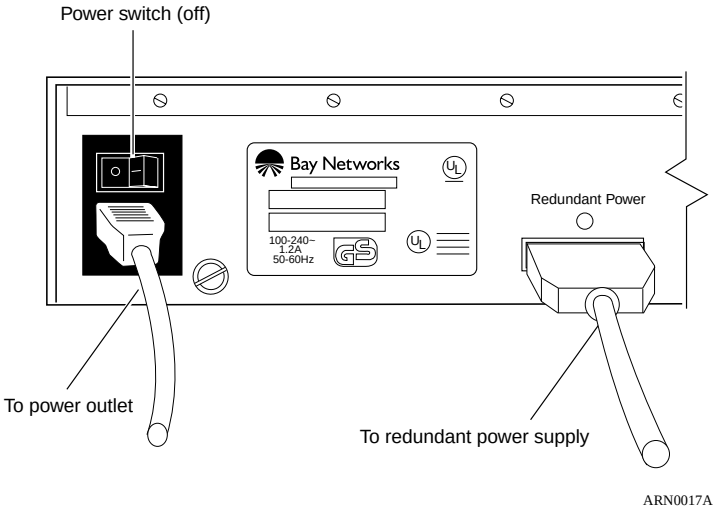

Figure 1. ARN Power Switch (Off) and Power Cables

2. **Remove all console cables from the back panel.**
3. **Remove all network cables from the front panel.**
4. **Loosen the two captive screws on the ARN back panel that secure the top enclosure to the ARN component tray (Figure 2).**

   Be sure to loosen the screws all the way.

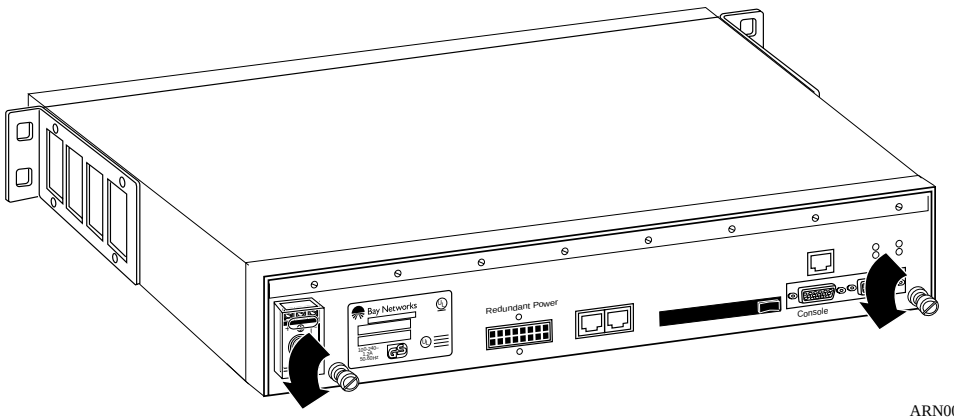

Figure 2. Loosening the Captive Screws on the Enclosure

5. **Place the ARN tray on a table or other work surface.**
6. **Holding the ARN front panel so that it does not move, slide the ARN enclosure away from the front panel and component tray (Figure 3).**

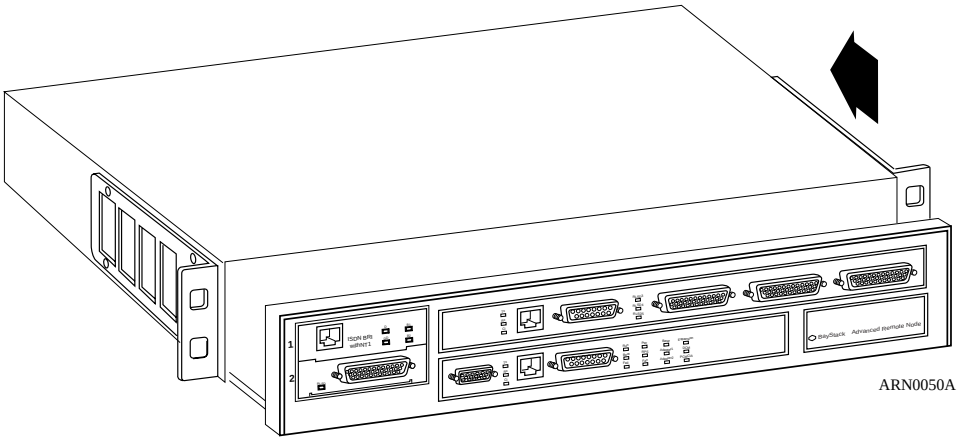

Figure 3. Removing the ARN Enclosure

7. **Attach an antistatic wrist strap before proceeding.**

Caution: Electrostatic discharge can damage hardware. You must wear the antistatic strap whenever you remove, install, or handle printed circuit boards.

You receive an antistatic wrist strap with the ARN system and with the upgrade module shipment. Refer to the instructions in the wrist strap bag.

The antistatic wrist strap directs the discharge of static electricity from your body to the router chassis, thereby avoiding discharge to sensitive electronic components.

8. **Proceed as follows:**
   - To replace an installed V.34 Console Modem, continue with the next section.
   - To install a new V.34 Console Modem in an empty slot, skip the next section and proceed to "Installing a Console Modem Module."

Removing an Installed Module

To remove an existing V.34 Console Modem module from the ARN base module:

1. **Locate the installed module and remove the screws that secure it to the base module (Figure 4).**

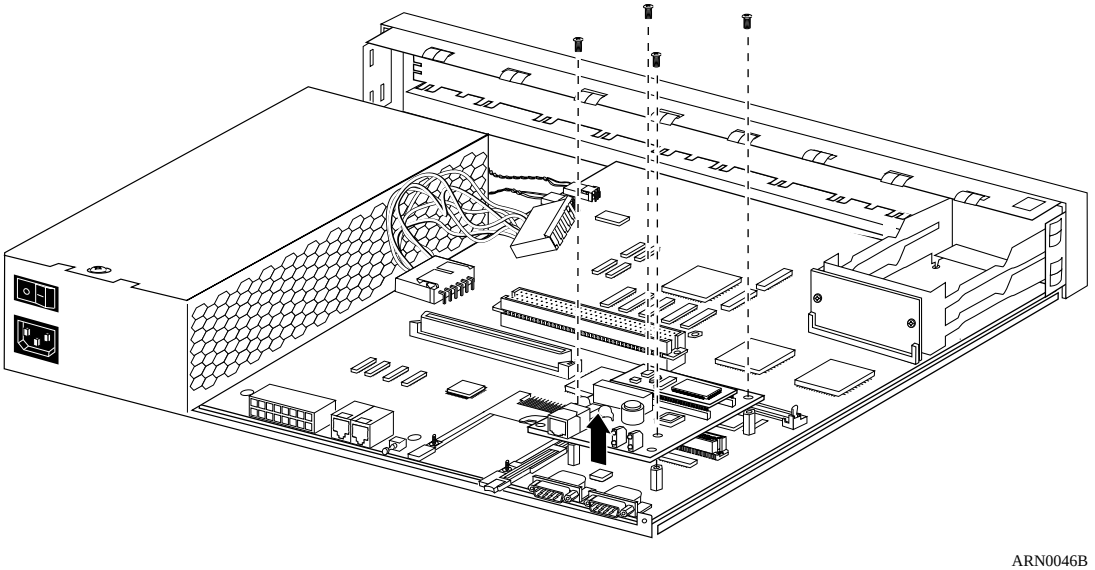

Figure 4. Removing the Screws from an Installed Module

2. **Grasping the edges of the module near the base module connector, pull straight up and lift the module out of the connector socket.**
3. **Place the removed module in an antistatic bag, or set it on an antistatic mat.**
4. **Proceed with Step 4 in the next section, "Installing a Console Modem Module."**

Installing a Console Modem Module

To install a V.34 Console Modem module:

1. **Remove and set aside the two screws that secure the filler plate for the back panel V.34 Console Modem slot (Figure 5).**
2. **Remove the filler plate (Figure 5).**

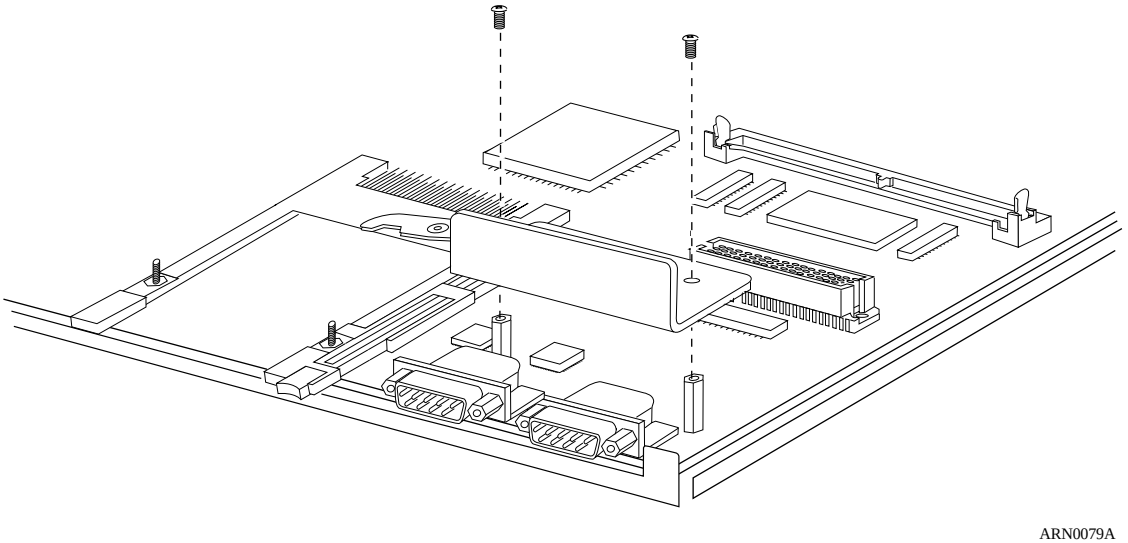

Figure 5. Removing the Filler Plate

3. **Attach two mounting screw standoffs at either side of the base module's V.34 modem connector (Figure 6).**

   The standoff mounts came with the V.34 Console Modem upgrade kit.

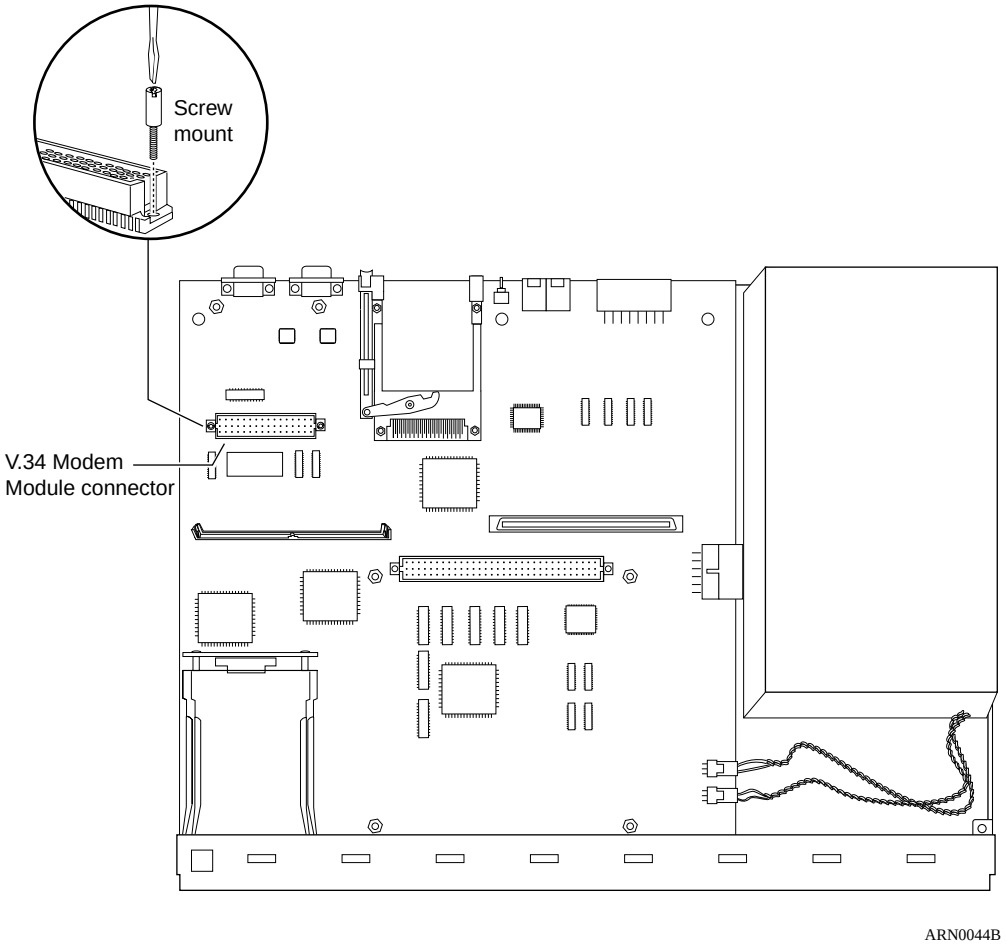

Figure 6. Installing Screw Mounts

4. **Hold the module by its edges, with the base module connector facing down (Figure 7).**

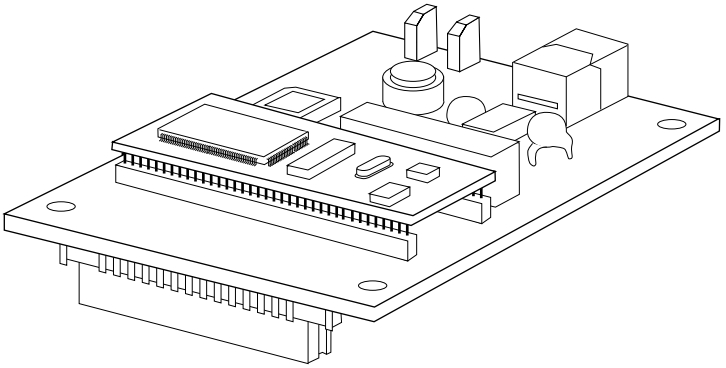

Figure 7. Positioning the Module

5. **Place the console modem module into the base module connector socket and press down to seat the module firmly in the socket.**
6. **Secure the module using the screws supplied in your upgrade kit (Figure 8).**

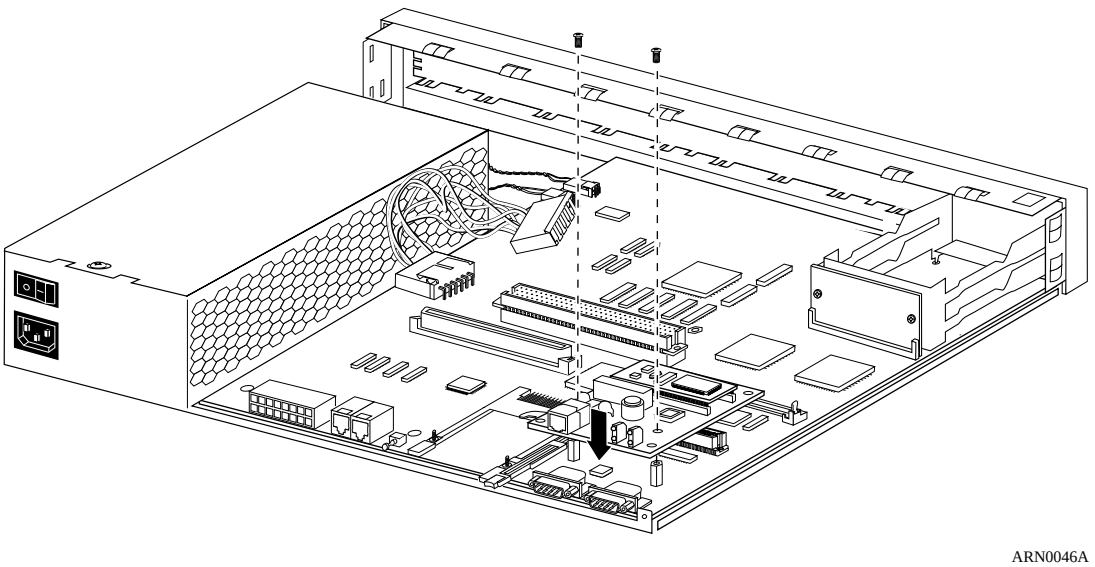

Figure 8. Securing the Module

Closing the ARN

To replace the ARN enclosure:

1. **Remove the antistatic wrist strap.**
2. **Facing the back panel, align the enclosure top around the base module component tray and slide the enclosure in until it meets the front panel.**

   If you meet resistance, lift up slightly on the enclosure, and center the component tray between the enclosure edges.
3. **Secure the two captive screws that hold the cover to the component tray (Figure 9).**

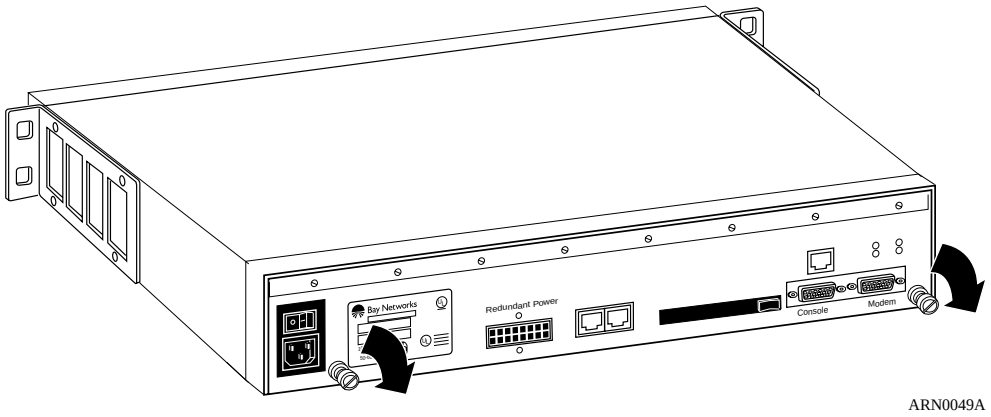

Figure 9. Securing the Captive Screws

4. **Reconnect any cabling you removed from the front and back panels.**
5. **Plug in the power cord and, if applicable, the redundant power supply cable (refer to Figure 1).**
6. **Attach the label that came in the upgrade kit to the ARN back panel.**

Connecting the Console Interface

Before reconnecting the ARN to the network, connect an RJ-11 modem cable to the new V.34 modem interface (Figure 10).

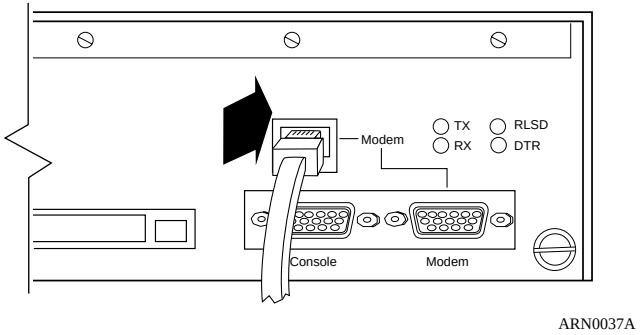

Figure 10. V.34 Console Modem Connector

For cables available from Bay Networks, refer to the *BayRS Cable Guide*.

To configure and use the V.34 modem as a router console, see *Installing and Operating BayStack ARN Routers* or the *Configuring BayStack Remote Access* guide.

Contact your local Bay Networks Technical Solutions Center if you need additional assistance.